

**ELECTRICALLY-DRIVEN VALVE COMPRISING A MICROPOROUS  
MEMBRANE**

**ABSTRACT**

The present invention essentially relates to an electrically-controlled valve formed by electroactive polymers and more precisely an electrically controlled fluidic valve separating two volume spaces, which comprises:

- at least one microporous membrane (16), the surface of which is at least partly covered with at least one electroactive polymer essentially placed within the pores of said microporous membrane, so that, when said polymer is in a defined oxidation-reduction state, it blocks off said pores; and
- an electrical supply intended to allow said valve to switch from the closed state to the open state, and vice versa, by changing the oxidation-reduction state of the electroactive polymer.

The invention also relates to a microfluidic device comprising such a valve.

Figure 1